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STATE OF MONTANA

BULLETIN

OF THE

Department of Public Health

Entered as second-class matter July 10, 1914, at the Post Office at Helena, Montana, under the Act of August 24, 1912.

Vol. 8. September 15, 1914. No. 5.

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HELENA, MONTANA.

Published Monthly at Helena, by the State Board of Health.

"The science of disease prevention, if properly applied, can add fifteen years to the present average length of human life."—Prof. Irving Fisher, Yale.

This Bulletin will be mailed monthly to any person in Montana upon request mailed to the Secretary of the State Board of Health at Helena.

ALLIED PRINTING TRADES UNION LABEL COUNCIL HELENA

MEDICAL INSPECTION OF SCHOOLS.

(By Gulick and Ayers.)

Since the days of Juvenal men have been quoting his much abused half-line, "A sound mind in a sound body"; and while making diligent provisions for schools in which "sound minds" were to be shaped, have felt that these schools needed little scrutiny as to their fitness for conserving and developing "sound bodies."

The famous Spanish voyager who lost his life in his futile search for the phantom fountain of youth was far from being the first or the last of the long line of seekers for a "cure-all" which should eradicate the ailments of old age and restore that buoyant health of youth which modern science is just beginning to teach us must be diligently conserved from childhood, if it is to be enjoyed in after life.

To say that we have during all this time lost sight of the true source of a healthy old age would be an extreme statement, but it is certainly true that educators in general have given but scanty and fleeting attention to the problem of the physical well-being of their charges.

All too often the same complacent and care-free attitude of mind has been shared by the parent. All children had to have the "common children's diseases"—and the sooner the better. If Johnny breathes through his mouth—"he always did that. He will outgrow it." The child's cough is only a "slight cold." "He always turns his head to one side when he writes or reads. It's a habit he has got into. He has always been pale. It is nothing unusual."

In cases of serious epidemics it has always been recognized that parents have the right to insist that the schools shall be safe places for them to send their children. This right has been recognized by the closing of the public schools during an epidemic; but despite the fact that it has long been recognized that the public school serves as a center of exchange for contagious diseases which pass from pupil to pupil, the occasional closing down and the rare fumigation have constituted the sum total of preventive measures, with the single exception of the commonly insisted on requirement of vaccination.

Again, except in extreme cases, the school has taken little note of such defects of mind and body as might vitally affect the chances of success and happiness of the child, unless such defects were of the more directly alarming nature of contagious diseases.

The "lockstep" has been the rule in physical matters, as in the realm of the course of study. All the children have been received on an equality and have been treated equally, no matter what their mental endowments or physical condition. The quick and the slow, the sound and the sick, have been grouped together; and he who could not keep his place in his studies has been as unquestioningly left behind as has he who through illness could not retain his place in the school.

That such a course was poor business policy, based on the false assumption of a universal mental and physical equality which does not exist, has been pointed out times without number. As in all movements, the leaders have been far in advance of the rank and file; and in our own, as in other countries, the great majority of people have been too much engaged in their special interests to give heed to the great problems involved in the work of improving the educational and physical well being of the young of the race.

With the great changes which have been coming over American life, former conditions have disappeared and this undisturbed indifference has become impossible. We have changed from an agricultural people to a race of dwellers in towns and cities. The school year has changed from a three months' winter term to one of five hours per day for ten months during the year. The number of years of school life has greatly increased. We have passed compulsory education laws. Going to school has become not only the normal, but the required occupation of all children for a considerable number of years.

The results of these changed conditions on the health of children have become so marked as to insistently demand attention. The parents, school authorities, and health authorities have been unable to avoid recognizing the fact that in the nature of the case the school has become the most certain center of infection in the community.

From these conditions grew up medical inspection, for the purpose of detecting cases of contagious diseases and of segregating such cases for the protection of other children. Wherever established, the good results of medical inspection have been evident. Epidemics have been checked or avoided. Improvements have been noted in the cleanliness and neatness of the children. Teachers and parents have come to know that under the new system it is safe for children to continue in school in times of threatened or actual epidemic.

But medical inspection does not stop here, nor has it limited its activities to the field outlined. Other problems have been insistently forcing themselves on the attention of school men; and they, knowing something of the wonderful advances made in the field of medicine, have turned for aid to the physicians.

With the changes in the length of the school term and the increase in the number of years of schooling demanded of the child, has come a great advance in the standards of the work required. When the standards were low, the work was not beyond the capacity of even the weaker children; but with close grading, fuller courses, higher standards, and constantly more insistent demands for intellectual attainment, this has changed. Pupils have been unable to keep up with their classes. The terms "backward," "retarded," "exceptional" as applied to school children have been added to the vocabularies of the school men. Inquiries have been instituted into the causes underlying the phenomena of backward and retarded children, of those who are unable to keep up with their classes, or those who seem to be different from their companions in their ability to do the work demanded.

As a result of these inquiries, physical examinations have been conducted by the doctors connected with the schools. Surprising numbers of children have been found who through defective eyesight have been seriously handicapped in their school work. Many are found to have defective hearing. Other conditions are found which have a great and formerly unrecognized influence on the welfare, happiness and mental vigor of the child. Attention has been directed to the real significance of adenoids and enlarged tonsils, of swollen glands and carious teeth.

Persistently, earnestly and quietly this work has been pushed to a successful experimental accomplishment, and as a result we have today medical inspection in its various forms, not only for the detection of contagious disease, but also for discovering those physical defects which interfere with the child's ability to do his school work, or which, if neglected, will seriously affect his physical efficiency in after life. The movement as a whole constitutes both a sign and a result of the gradual awakening which has developed into a wave of interest in matters that pertain to the health of school children that is now sweeping over the civilized world.

Communities are seeing the whole matter in a new light. Gradually they are beginning to ask, not whether they can afford to take steps to safeguard in schools the welfare of their children, but whether they can afford not to take such steps. The realization is dawning that it is unbusinesslike to count carefully the cost of the school doctor, but to disregard the cost of death and disease, of wrecked hopes and dependent families.

Teachers and parents are beginning to realize that from their viewpoint and from that of the school physician the problem of the pupil with defective eyesight may be quite as important to the community as that of the child who has some contagious disease. This child placed in a school where physical defects are unrecognized and disregarded, is unable to see distinctly, and headaches, eye-strain and failure follow all his efforts at study. He cannot see the blackboards and charts, printed books are indistinct or are seen only with much effort—everything is blurred. Neither he nor his teacher knows what is the matter, but he soon finds it impossible to keep pace with his companions, and, becoming discouraged, he falls behind in the unequal race.

In no better plight is the child suffering from enlarged tonsils and adenoids, which prevent proper nasal breathing and compel him to keep his mouth open in order to breathe. Perhaps one of his troubles is deafness. He is soon considered stupid. This impression is strengthened by his poor progress in school. Through no fault of his own he is doomed to failure. He neglects his studies, hates his school, leaves long before he has completed the course and is well started on the road to an inefficient and despondent life.

Public schools are a public trust. When the parent delivers his child to their care he has a right to insist that the child under the supervision of the school authorities shall be safe from harm and will at least be handed back to him in as good condition as he was at first. Not only has the parent the right to claim such protection, but even if he does not insist upon it, the child himself has a right to claim it. The child has a claim upon the State and the State a claim upon the child which demand recognition. In the words of Dr. William H. Allen: "When the State for its own protection compels a child to go to school, it pledges itself not to injure itself by injuring the child." We are beginning to find out that many of our backward pupils are backward purely and simply because, through physical defects, they are unable to handle the work of the school program. What these defects are and the causes that lie behind them are things that we must know. If we do not know them, we must find them out and guard against them. Education without health is useless. It would be better to sacrifice the education, if in order to obtain it, the child must lay down his good health as a price. Education must comprehend the whole man, and the whole man is built fundamentally on what he is physically. Children are not dullards or defectives by the will of an inscrutable providence, but rather by the law of cause and effect.

The objection that the State has no right to permit or require medical inspection of the children in the schools will not bear close scrutiny or logical analysis. The authority which has the right to compel attendance at school has the added duty of insisting that no harm shall come to those who go there. The Massachusetts law, with its mandatory "shall," is certainly preferable to the New Jersey law, with its permissive "may." The exercise of the power to enofrce school attendance would be dangerous if it were not accompanied with the appreciation of the duty of seeing that the assembling of pupils brings to the individual no physical detriment. When the subject is considered both from the standpoint of the individual and from that of the State, the wonder is not that the medical inspection is now being agitated, but rather that it was not long ago put into practice.

Nor is the State, in assuming the medical oversight of the pupils in the public schools, trespassing upon the domain of the private right and initiative. American systems do not, like the feeding of school children (already resorted to in France and parts of England), lessen the responsibility of the parent or tend to weaken or supersede the home. Under medical inspection absolutely nothing is done for the parent, but to tell him of the needs of his child, of which he would otherwise have been in ignorance. It leaves it to the parent to meet those needs. It leaves him with a larger responsibility than before. Whatever view be taken of the right of the State to enforce measures for the correction of defects discovered, the arguments for and against do not enter into the present discussion. It seems difficult to find a logical basis for the argument that the State has not the right to inform parents of defects present in the child and to advise as to remedial measures which must be taken to remove them.

The justification of the State in assuming the function of education and in making that education compulsory is to insure its own preservation and efficiency. Whether or not it is to be successful will depend upon its individual members. But the well-being of a State is as much dependent upon the strength, health and productive capacity of its members as it is upon their knowledge and intelligence. In order that it may insure the efficiency of its citizens, the State through its compulsory education enactments require its youth to pursue certain studies which experience has proved necessary to secure that efficiency. Individual efficiency, however, rests not alone on education or intelligence, but is equally dependent upon physical health and vigor. Hence, if the States may make mandatory training in intelligence it may also command training to secure physical soundness and capacity.

Much time may elapse before there will be brought to bear in all schools the measures, now so successfully pursued in some, for conserving and developing the physical soundness of rising generations. But, nevertheless, the movement is so intimately related to the future welfare of our country and is being pushed with so great energy and earnestness by its advocates that it is destined to be successful and permanent.

Not alone our unwillingness to be outdone in public service by foreign nations, not alone our sense of practical foresight, but our inherent feeling of obligation toward our children and our recognition of this service as one of necessity for the national well-being, are forcing upon us the incorporation of this phase of public activity as an integral part of our public education.

"No man ever reached a joy by jumping over a duty."

PREREQUISITES.

"Tommy," said the Sunday school teacher who had been giving a lesson on the baptismal covenant, "can you tell me two things necessary to baptism?"

"Yes'm," said Tommy; "Water and the baby."—Western Mail.

COMMUNICABLE DISEASES REPORTED TO THE STATE BOARD OF HEALTH FOR MONTH OF AUGUST, 1914.

SMAALLPOX—Blaine, 2; Chouteau, 6; Fergus, 2; Madison, 1; Missoula City, 2; Livingston, 2; Silver Bow (exclusive of Butte), 6; Butte, 8; Billings, 1. Total, 30. Last month, 61.

DIPHTHERIA—Great Falls, 1; Custer, 1; Gallatin (exclusive of Bozeman), 1; Hill, 4; Silver Bow (exclusive of Butte), 1; Butte, 3. Total, 11. Total last month, 15.

SCARLET FEVER—Carbon, 1; Dawson, 5; Hill, 18; Lincoln, 9; Madison, 1; Missoula (exclusive of Miles City), 2; Richland, 5; Rosebud, 1; Silver Bow (exclusive of Butte), 1; Butte, 2; Yellowstone, 1; Billings, 1. Total, 47. Total last month, 17.

TYPHOID FEVER—Cascade (exclusive of Great Falls), 5; Great Falls, 5; Custer, 1; Dawson, 4; Fallon, 3; Fergus, 5; Gallatin (exclusive of Bozeman), 2; Hill, 4; Helena, 2; Madison, 4; Missoula City, 1; Livingston, 1; Ravalli, 1; Sheridan, 2; Butte, 3; Teton, 1; Toole, 1; Yellowstone (exclusive of Billings), 1; Billings, 5. Total, 51. Total last month, 28.

MEASLES—Dawson, 2; Hill, 2; Lincoln, 1; Madison, 3; Missoula (exclusive of Missoula), 1; Silver Bow (exclusive of Butte), 2; Butte, 1. Total, 12. Total last month, 20.

TUBERCULOSIS—Great Falls, 1; Custer, 1; Madison, 1; Livingston, 1; Silver Bow (exclusive of Butte), 1; Butte, 5; Valley, 1; Billings, 5. Total, 16. Total last month, 31.

BIRTHS (EXCL. OF STILLBIRTHS) REPORTED TO THE STATE BOARD OF HEALTH FOR THE MONTH OF AUGUST, 1914, AND COMPARATIVE BIRTH AND DEATH RECORD IN THE STATE.

	Males	Females	Totals	Deaths	Excess of Births	Excess of Deaths
Beaverhead	8	9	17	4	13	....
Broadwater	2	2	4	1	3	....
Carbon	....	5	5	6	....	1
Cascade Excl. of	10	13	23	1	22	....
Great Falls	39	35	74	26	48	....
Chouteau	8	12	20	11	9	....
Custer	8	8	16	8	8	....
Dawson	11	6	17	8	9	....
Deer Lodge Excl. of	....	....	....	14	....	14
Anaconda	16	11	27	4	23	....
Fergus	20	18	38	12	26	....
Flathead Excl. of	7	5	12	4	8	....
Kalispell	8	8	16	9	7	....
Gallatin Excl. of	6	7	13	7	6	....
Bozeman	7	8	15	4	11	....
Granite	4	2	6	2	4	....
Jefferson	1	....	1	2	....	1
Lewis and Clark Excl. of	15	16	31	1	30	....
Helena	17	13	30	12	18	....
Lincoln	7	1	8	3	5	....
Madison	6	3	9	5	4	....
Meagher	10	6	16	6	10	....
Missoula Excl. of	5	5	10	10	....	....
Missoula City	18	17	35	13	22	....
Musselshell	10	11	21	8	13	....
Park Excl. of	2	5	7	7	....	....
Livingston	6	4	10	10	....	....
Powell	4	2	6	6	....	....
Ravalli	11	6	17	3	14	....
Rosebud	7	6	13	5	8	....
Sanders	2	6	8	5	5	....
Silver Bow Excl. of	21	14	35	10	25	....
Butte	55	38	93	80	13	....
Sweet Grass	5	3	8	1	9	....
Teton	8	8	16	6	10	....
Valley	11	14	25	14	11	....
Yellowstone, Excl. of	13	11	24	4	20	....
Billings	17	15	32	15	17	....
Big Horn	2	3	5	3	2	....
Blaine	11	7	18	6	12	....
Fallon	9	7	16	4	12	....
Hill	23	23	46	7	39	....
Richland	6	3	9	2	7	....
Sheridan	20	10	30	7	23	....
Stillwater	8	5	13	3	10	....
Toole	1	4	5	2	3	....
Totals	485	415	900	379	519	16

Stillbirths 34.

DEATHS (EXCL. OF STILLBIRTHS) REPORTED TO THE STATE BOARD OF HEALTH FOR THE MONTH OF AUGUST, 1914, ARRANGED ACCORDING TO COUNTIES AND PRINCIPAL CITIES.

	Tuberculosis	Scarlet Fever	Typhoid Fever	Meningitis	Pneumonia	Nephritis	Organic Heart Disease	Malignant Tumors	Acute Intestinal Diseases	Violence	Suicide	Alcholism	All Other Causes	Totals
Beaverhead	....	....	....	....	1	....	2	....	....	1	....	....	....	4
Broadwater	....	....	....	....	....	....	....	....	....	1	....	....	....	1
Carbon	1	....	....	....	....	....	1	....	1	....	....	....	3	6
Cascade Excl. of	....	....	....	....	....	....	....	....	1	....	....	....	....	1
Great Falls	....	....	1	1	7	3	2	2	1	....	....	....	9	26
Chouteau	1	....	....	....	....	1	1	....	2	3	....	....	3	11
Custer	1	....	....	....	....	....	....	1	1	3	....	....	2	8
Dawson	....	....	....	....	....	....	3	....	....	1	....	....	4	8
Deer Lodge Excl. of	1	....	....	....	....	....	....	....	....	1	1	....	11	14
Anaconda	....	....	....	....	....	1	....	....	....	1	....	....	2	4
Fergus	....	....	....	....	1	....	2	1	3	....	1	....	4	12
Flathead Excl. of	....	....	1	....	....	....	2	....	....	....	....	....	1	4
Kalispell	1	....	....	....	....	1	1	....	....	1	1	....	4	9
Gallatin Excl. of	....	....	1	....	....	1	....	....	....	4	....	....	1	7
Bozeman	....	....	....	....	....	1	1	....	....	1	....	....	1	4
Granite	....	....	....	....	....	....	....	....	....	2	....	....	....	2
Jefferson	1	....	....	....	....	....	....	....	1	....	....	....	....	2
Lewis and Clark Excl. of	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Helena	2	....	....	....	....	....	3	....	....	....	....	....	7	12
Lincoln	....	....	....	....	....	....	....	....	....	....	....	....	3	3
Madison	1	....	....	....	....	....	3	1	....	....	....	....	....	5
Meagher	....	....	....	....	....	....	....	....	....	1	1	....	4	6
Missoula Excl. of	....	....	....	....	1	....	2	....	2	1	....	....	4	10
Missoula City	1	....	....	1	....	1	1	2	2	2	....	....	3	13
Musselshell	....	....	....	1	....	....	....	1	6	....	....	....	....	8
Park Excl. of	....	....	....	....	....	....	....	1	....	3	....	....	3	7
Livingston	....	....	....	1	....	1	....	....	....	1	....	....	7	10
Powell	....	....	....	....	....	....	2	....	1	1	....	....	2	6
Ravalli	....	....	....	....	1	....	1	....	....	....	....	....	1	3
Rosebud	1	....	....	....	....	....	....	....	1	2	....	....	1	5
Sanders	....	....	....	....	....	....	....	....	....	1	2	....	....	3
Silver Bow Ex. of	....	1	....	....	....	2	....	....	1	1	....	1	4	10
Butte	12	....	1	2	3	4	5	1	14	9	3	1	25	80
Sweet Grass	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Teton	....	....	....	....	....	....	1	....	....	1	....	1	3	6
Valley	....	....	....	1	1	2	1	1	....	2	1	....	5	14
Yellowstone Excl. of	....	....	....	....	....	....	....	....	....	....	1	....	3	4
Billings	2	....	1	....	....	1	....	....	2	3	1	....	5	15
Big Horn	....	....	....	....	....	....	....	....	....	3	....	....	....	3
Blaine	1	....	....	....	....	....	....	....	1	1	....	....	3	6
Fallon	....	....	....	....	....	....	1	....	....	....	....	....	3	4
Hill	....	1	....	....	....	....	....	....	3	....	....	....	3	7
Richland	....	....	....	....	....	....	....	....	....	2	....	....	1	2
Sheridan	2	....	....	1	1	....	....	....	....	2	....	....	....	7
Stillwater	....	....	....	....	....	1	....	....	....	1	....	....	....	3
Toole	....	....	....	....	1	....	....	....	....	1	....	....	....	2
Totals	28	2	5	8	17	20	35	11	45	57	12	3	136	379

Estimated population	420,000
Monthly death rate per 1,000 population	.902
Annual death rate per 1,000 population	10.82

REPORT OF BACTERIOLOGICAL EXAMINATIONS MADE DURING THE MONTH OF AUGUST, 1914, BY E. STARZ, BACTERIOLOGIST, HELENA, MONTANA.

1.

Dr. Ph. Cole, Helena, Mont. Culture for Bac. for Diphth.: Negative.

Dr. McCabe, Helena, Mont. Blood for Widal: Positive.

Dr. Danskin, Glendive, Mont. Blood for Widal: Positive.

Dr. Horsky, Helena, Mont. Blood for Widal: Negative.

Dr. Blackstone, Absarokee, Mont. Blood for Widal: Positive.

3.

Dr. Dunn, Lewistown, Mont. Blood for Widal: Negative.

Dr. W. C. Riddell, Helena, Mont. Blood for Widal: Negative.

8.

Dr. C. C. Wallin, Lewistown, Mont. Blood for Widal: Negative.

Dr. W. Thornton, Stevensville, Mont. Sputum for Tub. Bac.: Negative.

Dr. W. Thornton, Stevensville, Mont. Sputum for Tub. Bac.: Negative.

Dr. G. H. Miller, Harlem, Mont. Blood for Widal: Positive.

10.

Dr. Dent, East Helena, Montana. Sputum for Tub. Bac.: Negative.

Dr. Thuerer, Billings, Montana. Blood for Widal: Positive.

11.

Dr. Dent, East Helena, Montana: Sputum for Tub. Bac.: Negative.

Dr. R. Horsky, Helena, Montana. Blood for Widal: Negative.

12.

Dr. Schrader, Hobson, Montana. Blood for Widal: Positive.

13.

Dr. B. C. Brooke, Helena, Montana. Sputum for Tub. Bac.: Positive..

Dr. R. C. Holgate, Livingston, Montana. Blood for Widal: Negative.

14.

Dr. Seitz, Bozeman, Montana. Sputum for Tub. Bac.: Negative.

Dr. R. Horsky, Helena, Montana. Sputum for Tub. Bac.; Positive.

Dr. McCoy, Belgrade, Montana. Blood for Widal: Positive.

Dr. M. Dean, Helena, Montana. Sputum for Tub. Bac.: Negative.

15.

Dr. Melvin, Chester, Montana: Sputum for Tub. Bac.: Negative.

17.

Dr. Husser, Hingham, Montana. Blood for Widal: Positive.

18.

Dr. Hulbush, Cut Bank, Montana. Blood for Widal: Negative.

19.

Dr. Blackstone, Absarokee, Montana: Blood for Widal: Negative.

20.

Dr. Fauts, Augusta, Montana. Blood for Widal: Positive.

21.

Dr. McCabe, Helena, Montana. Blood for Widal: Positive.

Dr. Marshall, Polson, Montana. Blood for Widal: Positive.

Drs. Power & Patterson, Conrad, Montana. Blood for Widal: Positive.

Dr. J. W. Frizzel, Great Falls, Montana. Blood for Widal: Positive.

22.

Dr. Chapple, Billings, Montana. Sputum for Tub. Bac.: Negative.

Dr. Miller, Harlem, Montana. Blood for Widal: Positive.

Dr. M. Dean, Helena, Montana. Blood for Widal: Positive.

Drs. Power & Patterson, Conrad, Montana. Blood for Widal: Positive.

24.

Dr. W. P. Smith, Columbus, Montana. Blood for Widal: Negative.

25.

Dr. W. P. Smith, Columbus, Montana. Blood for Widal: Positive.

Dr. J. Marshall, Polson, Montana. Blood for Widal: Positive.

Dr. Fligman, Helena, Montana. Sputum for Tub. Bac.: Negative.

Dr. R. H. Beach, Glendive, Montana. Blood for Widal: Positive.

Dr. Fauts, Augusta, Montana. Blood for Widal: Positive.

Dr. Hathaway, Glendive, Montana. Sputum for Tub. Bac.: Negative.

26.

Dr. J. Treacy, Helena, Montana. Blood for Widal: Positive.

27.

Dr. George Barbour, Helena, Montana. Blood for Widal: Positive.

Dr. L. McGuire, Brady, Montana. Blood for Widal: Positive.

28.

Dr. R. E. Hathaway, Glendive, Montana. Blood for Widal: Positive.

Dr. Noonan, Belgrade, Montana. Blood for Widal: Positive.

Dr. C. C. Seerley, Manhattan, Montana. Blood for Widal: Positive.

Dr. H. F. Schrader, Hobson, Montana. Blood for Widal: Negative.

29.

Dr. E. M. Larson, Great Falls, Montana. Culture for Bac. Diphth.: Positive.

Dr. L. H. Huber, Poplar, Montana. Sputum for Bac. Tub.: Positive.

Dr. C. E. McCoy, Belgrade, Montana. Blood for Widal: Positive.

Dr. C. C. Seerley, Manhattan, Montana. Blood for Widal: Negative.

Dr. Ph. Cole, Helena, Montana: Blood for Widal: Negative.

Dr. W. N. King, Victor, Montana. Blood for Widal: Positive.

Dr. Leard, Livingston, Montana. Sputum for Bac. Tub.: Positive.

30.

Dr. Noonan, Belgrade, Montana. Blood for Widal: Positive.

31.

Dr. P. H. O'Malley, Chinook, Montana. Blood for Widal: Positive.

EMIL STARZ.

FOOD AND DRUG DEPARTMENT.

LABORATORY REPORT.

Samples Reported During the Month of August.

Classification	Legal	Illegal	Unofficial	Total
Buttermilk	1	..	..	1
Cream	7	3	...	10
Ice Cream	1	2	..	3
Milk	86	59	2	147
Skim Milk	1	..	..	1
Preserving Compound	1	..	..	1
Water	..	..	..	45
Total	97	64	2	208

Two hundred and eight samples were reported to the Secretary of the State Board of Health during the month of August. Of this number, one hundred and forty-seven were milk, forty-five water, ten cream, three ice cream, and one each of buttermilk, skim milk and preserving compound.

The samples of skim milk, buttermilk and preserving compound were all legal. Two of the three samples of ice cream and three of the ten samples of cream were below standard in fat.

The one hundred forty-seven samples of milk were collected as follows:

Town	Legal	Illegal	Unofficial	Total
Anaconda	7	11	..	18
Billings	12	18	..	30
Butte	3	11	..	14
Eureka	1	1	..	2
Hamilton	5	3	..	8
Helena	1	..	..	1
Livingston	10	..	..	10
Missoula	16	8	..	24
Paradise	2	2	..	4
Plains	5	2	..	7
Pony	4	..	2	6
Sheridan	5	1	..	6
Thompson	4	1	..	5
Virginia City	6	..	..	6
Whitehall	5	1	..	6
Total				147

Of the fifty-nine illegal samples, twenty-six were below standard in fat alone, sixteen were below standard in solids not fat, while seventeen were below standard in both fat and solids not fat.

The forty-five samples of water were collected as follows:

Big Timber	11
Bozeman	4
Brady	1
Chinook	1
Columbus	1
Hamilton	1
Harlowtown	1
Helena	2
Lima	1
Livingston	5
Logan	3
Lombard	1
Sand Springs	1
Townsend	1
Trident	2
Whitehall	7
Windham	1
Yellowstone	1
Total	45

A more detailed description of the official food samples follows:

MISCELLANEOUS.

Lab. No.	Date	Description	Remarks
3550	8–15–14	Special 77 Preservaline. Manufacturer, the Preservaline Manufacturing Company, Brooklyn, N. Y.	Composed of Sodium Chloride and Sodium Benzoate.
3557	8– 1–14	Skim Milk, Dealer, W. J. Penny, Livingston, , Manufacturer, Billy Hamilton, Livingston	Standard.
3615	8–14–14	Buttermilk. Dealer, Mrs. W. Woodland, Billings; Manufacturer, Blanchard Creamery, Billings, Montana	Normal.

ICE CREAM.
Standard or Above.

Lab. No.	Date	Obtained from	Town	Fat
3744	8–26–14	Wilcoxson & Snowingley	Livingston	15.5%

ICE CREAM.
Below Standard.

Lab. No.	Date	Obtained from	Town.
3568	8- 1-14	George Diamos	Livingston.
3739	8-26-14	George Diamos	Livingston.

CREAM.
Above Standard.

Lab. No.	Date	Obtained from	Town	Fat %
3552	8- 1-14	Geo. W. Dayton	Livingston	26.3
3554	8- 1-14	Y. A. Pitts	Livingston	20.5
3555	8- 1-14	E. A. Leighton	Livingston	26.0
3561	8 -1-14	Park Restaurant	Livingston	24.8
3556	8- 1-14	Geo. W. Kumke	Livingston	28.0
3740	8-25-14	City Cafe	Livingston	21.6
3743	8-25-14	G. Davis	Livingston	22.0

CREAM.
Below Standard.

Lab. No.	Date	Obtained from	Town.
3559	8-1-14	W. J. Penny	Livingston, Montana.
3562	8-1-14	Marie Hanson	Livingston, Montana.
3565	8-1-14	Brown & Sohl	Livingston, Montana.

MILK
Standard or Above.

Lab. No.	Date	Obtained from	Town	Total Solids %	Solids not Fat	Fat
3551	8- 1-14	Geo. W. Dayton	Livingston	12.50	9.00	3.50
3553	8- 1-14	Y. A. Pitts	Livingston	13.16	9.06	4.10
3556	8- 1-14	E. A. Leighton	Livingston	12,35	8.65	3.70
3558	8- 1-14	W. J. Penny	Livingston	12.09	8.69	3.40
3560	8- 1-14	Park Restaurant	Livingston	12.57	8.77	3.80
3563	8- 1-14	Marie Hanson	Livingston	12,94	8.94	4.00
3564	8- 1-14	Brown & Sohl	Livingston	13.10	9.00	4.10
3567	8- 1-14	Geo. W. Kumke	Livingston	12.45	8.85	3.60
3584	8- 1-14	J. R. Kratz & Sons	Billings	12.05	8.75	3.30
3586	8- 1-14	Neil Molley	Billings	11.97	8.57	3.40
3589	8- 1-14	L. R. Blaine	Billings	13.53	8.83	4.70
3590	8- 1-14	A. L. Kanp	Billings	12.04	8.64	3.40
3592	8- 1-14	E. A. Hopper	Billings	12.50	8.90	3.60
3593	8- 1-14	Yegan Bros.	Billings	12.38	8.68	3.70
3596	8- 1-14	Boston Cafe	Billings	20.33	10.03	10.30
3613	8-14-14	A. T. Purdy	Eureka	13.96	9.26	4.70
3622	8-14-22	M. R. Jeffrey	Hamilton	12.59	8.59	4.00
3624	8-14-14	John Kalberer	Hacilton	13.43	8.53	4.90
3626	8-14-14	Hamilton Cafe (Art Roman)	Hamilton	12.21	8.86	3.35
3627	8-14-14	Lolis Peterson	Hamilton	12.16	8.66	3.50
3629	8-14-14	William Conroy	Hamilton	13.07	8.77	4.30
3633	8-14-14	Percy Ingalls	Anaconda	11.94	8.54	3.40
3635	8-14-14	Valentine Galle	Anaconda	12.46	8.86	3.60
3636	8-14-14	Boone & Manlove	Anaconda	12.32	8.52	3.80
3638	8-14-14	J. C. Bryson	Anaconda	12.16	8.56	3.60
3639	8-14-14	Peter Lazetich	Anaconda	12.25	8.55	3.70
3645	8-15-14	Mrs. J. Borgen	Anaconda	13.30	8.90	4.40

Milk, Standard or Above—Continued.

No.	Date	Obtained from	Town	Total Solids %	Solids not Fat	Fat
3648	8-15-14	Montana Hotel Company	Anaconda	12.37	8.57	3.80
3651	8-15-14	Shappard Hotel (H. Shappard)	Missoula	13.30	8.90	4.40
3652	8-15-14	G. T. Kinch	Missoula	12.79	9.09	3.70
3653	8-15-14	Otto Quast	Missoula	13.90	9.00	4.90
3655	8-15-14	J. O. Newcomb, Vienna Cafe	Missoula	12.01	8.71	3.30
3656	8-15-14	Mrs. T. J. Walterkirchen	Missoula	14.57	8.97	5.60
3657	8-15-14	Garden City Restaurant	Missoula	11.90	8.60	3.30
3658	8-15-14	Sam Young, Restaurant	Missoula	15.87	8.57	7.30
3659	8-15-14	DesMoines Restaurant	Missoula	13.42	8.62	4.80
3660	8-15-19	O.N. Holt, Royal Cafe	Missoula	13.52	8.72	4.80
3662	8-15-14	L. M. Wittrupp, Dairy	Missoula	12.04	8.54	3.50
3664	8-15-14	D. A. Calhoun, Dairy	Missoula	12.56	8.56	4.00
3665	8-15-14	Muliemer Halle & Rick	Missoula	12.81	8.71	4.10
3666	8-15-14	C. A. Martinson, Cafe	Missolla	14.14	8.74	5.40
3668	8-15-14	C. E. Quast, Dairy	Missoula	12.33	8.63	3.70
3671	8-15-14	Chas. J. Bloomquist	Missoula	16.36	9.06	7.30
3672	8-15-14	W. S. Custer, Creamery Co.	Missoula	13.79	9.09	4.70
3677	8-19-14	Denham & Snow	Missoula	12.37	8.57	3.80
3679	8-19-14	W. D. Davis	Billings	13.33	8.63	4.70
3680	8-19-14	Eeraerts Bros.	Billings	13.13	8.93	4.20
3681	8-19-14	7 X Dairy	Billings	12.59	8.69	3.90
3682	8-19-14	W. P. Fitzpatrick	Billings	14.11	9.41	4.70
3687	8-22-14	Mrs. H. Schmidt, Palm Hotel	Whitehall	14.31	9.11	5.20
3688	8-22-14	Mrs. Lot Borden	Whitehall	13.85	9.35	4.50
3690	8-22-14	D. P. Lake	Whitehall	14.68	9.28	5.40
3691	8-22-14	F. A. Janker	Whitehall	12.73	9.43	3.30
3692	8-22-14	E. C. Hackley	Whitehall	13.79	9.19	4.60
3693	8-22-14	John A. Scott	Thompson	13.20	9.30	3.90
3694	8-22-14	S. E. Speaks	Thompson	12.80	8.70	4.10
3696	8-22-14	E. Preston	Thompson	13.20	9.30	3.90
3797	8-22-14	Lux Bros.	Thompson	13.80	9.40	4.40
3698	8-22-14	Geo. Avery	Paradise	22.54	11.04	11.50
3700	8-22-14	J. P. Cone	Paradise	13.04	8.64	4.40
3704	8-22-14	Chas. Logue, 417 So. Idaho	Butte	12.61	8.51	4.10
3705	8-22-14	The Creamery Cafe	Butte	12.52	8.72	3.80
3707	8-22-14	A. Martini	Butte	12.17	8.77	3.40
3727	8-22-14	I. R. Blaisdell	Plains	12.82	8.92	3.90
3728	8-22-14	G. W. Larse	Plains	13.80	8.50	5.30
3729	8-22-14	Frank Harlen	Plains	12.32	9.02	3.30
3730	8-22-14	C. C. Willis	Plains	14.37	8.87	5.50
3732	8-22-14	H. Balke	Plains	13.92	9.12	4.80
3733	8-24-14	Mrs. J. Beaber	Virginia City	14.50	9.00	5.50
3734	8-24-14	Mrs. J. H. Vanderbeck	Virginia City	13.21	8.71	4.50
3735	8-24-14	Mrs. Geo. E. Gohn	Virginia City	14.68	8.88	5.80
3736	8-24-14	G. D. Vickers	Virginia City	13.26	9.26	4.00
3737	8-24-14	Mrs. M. Gilbert	Virginia City	15.58	9.58	6.00
3738	8-24-14	Mrs. Matt Carey	Virginia City	12.57	8.67	3.90
3745	8-25-14	Mrs. E. D. Marsh	Sheridan	13.60	9.20	4.40
3746	8-25-14	Mrs. L. C. Edwards	Sheridan	12.78	8.68	4.10
3747	8-25-14	Mrs. M. Moore	Sheridan	13.23	8.63	4.60
3748	8-25-14	Mrs. J. L. Elser	Sheridan	12.64	8.74	3.90
3749	8-25-14	Mrs. Mina Spuhler	Sheridan	12.40	8.60	3.80
3741	8-25-14	City Cafe	Livingston	12.29	8.79	3.50
3742	8-25-14	G. Davis	Livingston	12.04	8.54	3.50
3761	8-29-14	M. L. Connor	Pony	15.53	8.53	7.00
3762	8-29-14	Joe Farrel	Pony	14.00	9.00	5.00
3763	8-29-14	C. N. Bell	Pony	12.99	8.74	4.25
3764	8-29-14	B. O. Pannell	Pony	13.03	8.93	4.1
3765	8-29-14	Restaurant, Ng. Tai	Pony			

MILK

Below Standard.

Lab. No.	Date	Obtained from	Town	Remarks
3582	8- 1-14	Eareerts Bros. Dairy	Billings	Low in fat.
3583	8- 1-14	Leo Petre, Dairy	Billings.	Low in fat and solids not fat.
3585	8- 1-14	E. Schaafsma, Dairy	Billings.	Low in fat.
3587	8- 1-14	B. G. Dawson & Sons	Billings.	Low in solids not fat.
3588	8- 1-14	Denham & Snow	Billings	Low in fat.
3591	8- 1-14	W. P. Fitzpatrick	Billings	Low in fat.
3594	8- 1-14	Ed. O'Donnell, Dairy	Billings.	Low in fat and solids not fat.
3595	8- 1-14	The Boquet Cafe	Billings.	Low in fat.
3597	8- 1-14	Quick Lunch	Billings.	Low in solids not fat.
3598	8-1-14	Carleris Cafe	Billings.	Low in fat.
3599	8- 1-14	The Thomas Place	Billings.	Low in fat.
3600	8- 1-14	Home Bakery and Lunch	Billings.	Low in fat.
3601	8- 1-14	Bismark Cafe	Billings.	Low in fat.
3602	8- 1-14	St. Louis Cafe	Biillings.	Low in solids not fat.
3603	8- 1-14	Yellowstone Cafe	Billings.	Low in fat.
3604	8- 1-14	Colonial Cafe	Billings.	Low in solids not fat.
3605	8- 1-14	American Cafe	Billings.	Low in solids not fat.
3614	814-14	Mary Osloske	Eureka.	Low in fat.
3623	8-14-14	Montana Restaurant	Hamilton.	Low in fat.
3625	8-14-14	Model Cafe	Hamilton.	Low in fat.
3628	8-14-14	J. O. Read, Ravalli Hotel	Hamilton.	Low in solids not fat.
3631	8-14-14	Mrs. Pat Sweeney	Anaconda.	Low in fat and solids not fat.
3632	8-14-14	Willow Glen Stock Farm	Anaconda.	Low in solids not fat.
3634	8-14-14	Ton Budnick	Anaconda.	Low n solids not fat.
3637	8-14-14	John Cole	Anaconda.	Low in solids not fat.
3640	8-14-14	Frank Prosenick	Anaconda.	Low in fat and solids not fat.
3641	8-14-14	Wm. McMonigal	Anaconda.	Low in fat and solids not fat.
3642	8-14-14	C. S. Sunderland	Anaconda.	Low in solids not fat.
3643	8-14-14	John Verlanic	Anaconda.	Low in solids not fat.
3644	8-15-14	James Morris	Anaconda.	Low in solids not fat.
3646	8-15-14	Mrs. MacGregor	Anaconda.	Low in fat.
3647	8-15-14	Mrs. Olson, 116 E. Park	Anaconda.	Low in fat and solids not fat.
3649	8-15-14	W. W. Hunt, Restaurant	Missoula.	Low in fat.
3650	8-15-14	A. B. Paulson, Cafeteria	Missoula.	Low in fat.
3654	8-15-14	Augusta Paulson, N. P. L. Counter	Missoula.	Low in solids not fat.
3661	8-15-14	Dennis Lee, Modern Dairy	Missoula.	Low in fat and solids not fat.
3663	8-15-14	H. R. Minard	Missoula.	Low in solids not fat.
3667	8-15-14	Lundborg Bros. Restaurant	Missoula.	Low in fat.
3669	8-15-14	W. E. Wheller, Minute Lunch	Missoula.	Low in fat.
3670	8-15-14	Mrs. C. A. Urlson, Y. M. C. A.	Missoula.	Low in fat.
3678	8-20-14	Ed. O'Donnell, Dairy	Billings.	Low in solids not fat.
3689	8-22-14	J. S. Ford	Whitehall.	Low in fat.
3695	8-22-14	Mrs. Mary Cummings	Thompson.	Low in fat.
3699	8-22-14	E. Johnson	Paradise.	Low in fat.
3701	8-22-14	E. Johnson	Paradise.	Low in fat.
3702	8-22-14	Montana Dairy	Butte.	Low in fat and solids not fat.
3703	8-22-14	Gilmore & Davey	Butte.	Low in fat and solids not fat.
3706	8-22-14	Joseph Lutey	Butte.	Low in solids not fat.
3708	8-22-14	Francis I. Lewis	Butte.	Low in fat and solids not fat.
3709	8-22-14	Leedom's Cafe, 34 Broadway	Butte.	Low in solids not fat.

Milk Belo Standard—Continued.

Lab. No.	Date	Obtained from	Town	Remarks
3711	8-22-14	Mrs. W. E. Jeroms	Butte.	Low in fat and solids not fat.
3712	8-22-14	Mrs. C. H. Benson	Butte.	Low in fat and solids not fat.
3710	8-22-14	Wm. Fisher	Butte.	Low in fat and solids not fat.
3713	8-22-14	P. H. Kenny	Butte.	Low in fat and solids not fat.
3714	8-22-14	Gay & Barter	Butte.	Low in fat and solids not fat.
3715	8-22-14	Rochlein & Masson	Butte.	Low in fat and solids not fat.
3726	8-22-14	Frank Boyer	Plains.	Low in fat.
3731	8-22-14	H. G. Kemp	Plains.	Low in fat.
3750	8-25-14	Mrs. Augusta Steiner	Sheridan.	Low in fat.

HARLOWTON CITY WATER.

A complete chemical analysis of Harlowton city water was made in December, 1909. This water supply is taken from a well somewhat over six hundred (600) feet in depth and pumped to a reservoir from which the city mains are filled.

Deep well waters in Montana frequently contain large amounts of mineral matter in solution. It is interesting to note that while the Harloton water contains much more mineral matter than the surface waters of the state, still it is considered a satisfactory water for domestic purposes. The lime and magnesium content is low, therefore the water is soft.

According to the hypothetical combination reported below the principal salt in solution is sodium bi-carbonate, or baking soda, while sodium sulphate or Glauber's salts constitutes most of the remaining mineral matter.

The analysis of this water is given below, trusting that it will be of value for comparison with analysis of other water supplies drawn from deep wells:

Water Analysis.

	Pts. Per Million.
Free ammonia (NH_4)	.59
Albuminoid ammonia (NH_4)	.04
Nitrites (NO_2)	0.0
Nitrates (NO_3)	0.0
Sodium (Na)	407.0
Magnesium (Mg)	.9
Calcium (Ca)	2.05

Iron oxide (Fe_2O_3)	1.6
Aluminum Oxide (Al_2O_3)	1.6
Silica (SiO_2)	6.8
Chlorine as Cl	9.5
Sulphates as SO_4	226.3
Carbonates as CO_3	6.3
Bi-carbonate as HCO_3	740.0
Solids	1,067.0

The above constituents are probably combined as follows:

	Grs. Per Million.	Grs. Per U. S. Gal.
Sodium chloride	15.7	.92
Sodium sulphate	334.9	19.54
Sodium caronate	697.07	39.6
Ammonium carbonate	1.6	.09
Magnesium carbonate	3.1	.18
Calcium Carbonate	5.2	.30
Iron and aluminum oxides	1.6	.09
Silica	6.8	.40
	1,047.97	61.12

Another sample of this water was analyzed on August 10, 1914, and the analysis gives results practically the same as reported above. This indicates that the water has not altered in composition materially in five years.

ON WASHING THE HANDS.

"Food, fingers and flies," has been in the past an excellent watchword of sanitarians. Today all research and all practice has been subdivided and it is worth while now to pay attention to individual factors that are here classed together. A modern watchword should be, "Wash the hands."

It is true that we do wash our hands some, but it is a practice that should be extended. The fingers touching everything and playing continually about the mouth convey to the lips whatever they may have collected. In the universal interchange of saliva, it is through the fingers very largely that the exchange is made. If the hands were washed frequently much of the exchange would be lost. And further, if the present idea concerning typhoid fever is to be accepted, its spread would be largely curtailed if people would wash their hands.

There is here a lesson that may be learned from the Hebrews. Following all bodily offices there is a little religious ceremony involving the washing of the hands, and this with other ablutions must count for much in the way of prevention.

One practice which seems worthy of place in the cleanliness of people is the washing of the hands after touching the shoes. The latter come into contact with whatever there may be of filth or infection on the pavement. This may be street, sidewalk, railway track or elsewhere. Washing the hands frequently is a sensible protective measure. In fact, in those hospitals where the same nurse looks after different contagious diseases it is the chief reliance in preventing cross infection.—From American Journal of Public Health.

ADDRESS ON GENERAL STANDARD.

By Carl L. Alsberg.

(Delivered at the Eighteen Annual Convention of the Association of American Dairy, Food and Drug Officials, at Portland, Me., July 14, 1914.)

I think I may safely assert before this meeting that this association favors the establishment of legalized general standards and that our only object is to protect the consumer more effectively.

General standards would vastly simplify the enforcement of food and drug laws. Most prosecutions would be reduced in the main to questions of chemical analysis, that is to questions of exact science. Exact science, to be sure, is far from being as exact as it pretends, and it has a way, when scrutinized in a court of law, of becoming vague like a dissolving view. Nevertheless, it is perfectly abvious that issues of pure fact are simple as compared with the perplexing mixed issues of fact and judgment that so often befog the issues in our courts today.

Standards would lessen the cost of administering the law very greatly. There would be fewer expensive trials with scores of high-priced experts on both sides. Consequently, a given appropriation would go further. Where, however, no standards have been fixed, it is necessary to try the issue on scientific opinion before a jury. It results in the costly arraying of sets of experts against each other, each trying to prove that the opinion of the other side is wrong. The jury then must attempt to weigh the tremendous volume of testimony, much of which is apt to confuse a layman. The issues cannot be clearly drawn or made absolutely plain to the jury, and the decision may well do injustice to either side. Whatever the outcome, the process, in the absence of standards, is an expensive, long-drawn-out and troublesome one for both sides.

Even this might not be so unsatisfactory if such a battle of experts settled everything. As a matter of fact it settles nothing but the case litigated. It may be necessary to fight the whole campaign over again every time a similar alleged violation is brought into court. And so on without end.

General standards would very largely eliminate the very human bias of the official. The elimination of the person equation is an end to be striven for in matters of this kind. The advantage to the official, though not so patent, is equally great. It lightens official responsibility and protects the official from any suspicion of unfairness.

It must ,therefore, be quite evident to anyone who will give the situation serious consideration that the enactment of standards will make it possible to give to the consumer the maximum of protection at the minimum of cost.

Let us consider the principles that must be followed in shaping standards. There are three that seem absolutely essential.

The standards should permit no unwholesome or deleterious food to reach the consumer.

The standards should allow no form of deception to be practiced upon the consumer.

The standards should deprive the consumer of no wholesome food, however cheap.

In these days of keen competition and high prices the establishment of standards based upon luxury or unusual quality would be a very doubtful service to the people. There is a place and a level for every wholesome food. It must be our duty to see that each article finds its proper commercial level. This can be attained only by preventing every form of misrepresentation.

However, we must not merely be on guard that standards do not exclude any wholesome food from commerce, but we must also take care that the standards when established do not become rigid and flexible. They should be easy to modify and to change. Rigid standards may not merely work injustice, but they may also hamper progress in the manufacture of foods. This is really a serious danger.. With our population concentrating in large cities, our food industries must change to meet the demands of a civilization based no longer on agriculture alone. If our people in our great cities are to be fed our standards must not hamper progress in the food industries, provided such progress does not result in deception, fraud or danger to the public health. Therefore the interests of the consumer demand that in the enactment of standards some simple machinery be provided for their modification to meet new and improved conditions.

Still another factor that must be considered is that certain types of foods can not easily be standardized with any great exactness. These are the foods in which the personal taste and preference of the consumer dictate the composition. For them we must content ourselves with establishing general principles which will leave sufficient latitude for the full exercise of individual tastes. If we were to do otherwise our standards would degenerate into a compilation of cook book receipts.

I believe the time has come when a sincere effort to establish standards will meet with but little opposition. The honest manufacturers as well as the consumer will be protected by proper standards. The manufacturer will have a firm and known basis on which to do business. At present all is confusion. Uncertainty will largely disappear, and uncertainty is the death of trade. Uniformity will grow out of the existing chaos. The honest manufacturer knows well that his interests and those of the consumer are identical.—From the American Food Journal.